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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shiwen Chen

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EXAMINER

ZHONG, CHAD

ART UNIT

PAPER NUMBER

2152

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/614,542	CHEN, SHIWEN	
	Examiner	Art Unit	
	Chad Zhong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 26-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

1. Applicant's arguments, see pages 5-6 of applicant's remarks, filed 9/8/2005, with respect to the rejection(s) of claim(s) 1-24 and 26-47 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference Park et al., US 2003/0031173. Since, applicant has received a non-final action on merit, therefore, this action is final. Claims 1-24 and 26-47 are presented for examination; claim 25 is cancelled; claims 1, 6, 9, 13, 19, 20, and 22 are currently amended; claims 31-47 are newly added.

2. It is noted that although the present application does contain line numbers in specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.

3. Applicant is required to update the status (pending, allowed, etc.) of all parent priority applications in the first line of the specification. The status of all citations of US filed applications in the specification should also be updated where appropriate.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. The claimed invention is directed to non-statutory subject matter. Specifically, in claims 20 and 22, data packet embodied in *a carrier wave* is non-statutory subject matter, appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 32, 35, 37, 38, 43, 44, and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, original disclosure teaches the options field can hold multiple IP addresses, but it does NOT disclose any indicators tracking the amount of IP addresses within the options field, nor are there any mention of increasing and/or decreasing such indicators. Thus, 32, 35, 37, 38, 43, 44, and 45 are rejected under 35 U.S.C. 112, first paragraph, appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title before the invention thereof by the applicant for patent.

9. Claims 1-16, 19-24, 28-34, 36-37, 39-43, and 46-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al., (hereinafter Park), US 2003/0031173.

10. As per claim 1, Park teaches a method for routing data packets in a packet-switched network,

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comprising:

receiving a data packet at a network routing device residing in the network, the data packet being formulated in accordance with the Internet Protocol (IP) to have a packet header including a destination IP address field (Fig 4, item 4-3), a source IP address field (Fig 4, item 4-2), and an options field (Fig 4, item 4-4), and having at least one private IP address embedded in the options field of the packet header (Fig 5, item 5-7, where the address can be public or private network);

extracting the at least one private IP address directly from the options field ([0036]; [0040-0041], extraction of the IP address embedded within the options field is implicitly taught, in order to compare and make determination, an extraction of IP address is needed); and

directly formatting the destination IP address field of the packet header with the at least one private IP address prior to forwarding the data packet ([0040-0042], where exchange of IP addresses between the address fields is completed before to forwarding of the packet).

11. As per claim 2, Park teaches receiving the data packet at a public-side interface of the network routing device ([0040-0041], where the packet can be part of the public or private network).

12. As per claim 3, Park teaches forwarding the data packet through a private-side interface of the network routing device ([0040-0041]).

13. As per claim 4, Park teaches defining the options field of the packet header to include an embedded address indicator which indicates the presence of the at least one private IP address in the options field ([0031], options class 5-1).

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14. As per claim 5, Park teaches formatting the destination IP address field when an IP address residing in the destination IP address of the packet header matches a public-side interface IP address for the network routing device ([0040-0041]).
15. As per claim 6, Park teaches reformatting the options field to remove the at least one private IP address ([0040-0041], the addresses are extracted or removed from their original locations).
16. As per claim 7, Park teaches the data packet includes two or more private IP addresses appended to each other in a predefined order within the options field of the packet header ([0010]).
17. As per claim 8, Park teaches repeating the process of extracting and formatting at each network routing device interposed between a public network and a destination network device, wherein, to an extent that multiple routers are interposed between a public network and a destination host in a 'private network, another private IP address is directly extracted from the options field and directly inseded into the destination IP address field of the packet header at each intermediate routing device, thus ensuring that the data packet is routed in a peer-to-peer manner from a source host to a destination host (Fig 1, items 14a-14c are routers, [0040-0041] provides method of exchanging data with devices outside of the private network, in order to achieve this aspect, there must be at least two routers the data must traverse until data reaches its destination).
18. As per claim 9, the claim is rejected for the same reasons as rejection to claim 1 above.
19. As per claim 10, the claim is rejected for the same reasons as rejection to claim 5 above.
20. As per claim 11, Park teaches reformat the options field after extracting the at least one private IP

address from the options field ([0040-0041]).

21. As per claim 12, the claim is rejected for the same reasons as rejection to claim 7 above.

22. As per claim 13, the claim is rejected for the same reasons as rejection to claim 1 above.

23. As per claim 14 and 15, the claims are rejected for the same reasons as rejection to combination of claims 2 and 3 above. Further, it should be noted that the network packets are interchangeable throughout the network, the router handles incoming as well as outgoing network traffic to and from the private network and public network, the system is displayed in Fig 1 of Park.

24. As per claim 16, Park teaches receiving the data packet at a network device having an IP address that matches the destination IP address embedded in the destination IP address field; and extracting the original source private IP address from the options field and the IP address for the network routing device from the source IP address field of the packet header for subsequent communications with the originating network device ([0040-0042]).

25. As per claim 30, the claim is rejected for the same reasons as rejection to claim 8 above.

26. As per claims 19-20, the claims are rejected for the same reasons as rejection to claim 1 above.

27. As per claim 21-23, the claims are rejected for the same reasons as rejection to claim 4, 1, and 4 above respectively.

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28. As per claim 24, the claim is rejected for the same reasons as rejection to claim 1 above.

29. As per claim 28, Park teaches registering the traversable network address of the network device with a domain name server ([0038]).

30. As per claim 29, the claim is rejected for the same reasons as rejection to claim 28 above.

31. As per claim 31-33, the claim is rejected for the same reasons as rejection to claims 1, 4, and 4 above respectively.

32. As per claim 34, Park teaches said indicator is in said first state when said indicator is non-zero ([0031]).

33. As per claim 36, the claim is rejected for the same reasons as rejection to claim 6 above.

34. As per claim 37, Park teaches said header also includes a header length field, and further comprising reducing a number stored in said header length field to reflect an absence of said first destination address ([0031]).

35. As per claim 39, the claim is rejected for the same reasons as rejection to combination of claims 2 and 3 above.

36. As per claim 40-42, the claims are rejected for the same reasons as rejection to claim 1 above.

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37. As per claim 43, the claim is rejected for the same reasons as rejection to claim 37 above.

38. As per claim 46, the claim is rejected for the same reasons as rejection to combination of claims 2 and 3 above.

39. As per claim 47, the claim is rejected for the same reasons as rejection to claim 2 above.

Claim Rejections - 35 USC § 103

40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

41. Claims 17-18, 26-27, 35, 38, and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park, as applied to claims 13, 24, 31 and 41 above, in view of Frietsch, US 2004-0199627.

42. As per claim 17, Park disclose the invention substantially as rejected in claim 13 above, including receiving the data packet at a another network routing device having a private-side interface IP address ([0040-0041]);

formatting the source IP address field of the packet header with a public interface IP address for the another network routing device prior to forwarding the data packet.

However, Park does not explicitly say appending the IP address for the network routing device to the original source private IP address in the options field of the packet header.

Frietsch teaches appending the IP address for the network routing device to the original source private IP address in the options field of the packet header (Frietsch, [0051]).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to incorporate Frietsch teaching with Park because the combination would improve the monitoring capabilities of Park's system by utilizing a tracking mechanism to keep track of the routes taken by the packet, (Frietsch, [0010]).

43. As per claim 18, the claim is rejected for the same reasons as rejection to combination of claims 1 and 8 above.

44. As per claim 26-27, the claims are rejected for the same reasons as rejection to claim 17 above.

45. As per claim 35, Park – Frietsch disclose the invention substantially as rejected in claim 32 above, including decrementing a indicator, wherein said indicator indicates how many destination addresses remain in said options field (Frietsch, [0051-0052]; [0086], the numbers indicate how many routers the system will monitor after, each router has its own address to append to the options field).

46. As per claim 38, the claim is rejected for the same reasons as rejection to claim 35 above.

47. As per claim 44, the claim is rejected for the same reasons as rejection to claim 35 above.

48. As per claim 45, the claim is rejected for the same reasons as rejection to claim 35 above.

Conclusion

49. Applicant's remarks filed 9/8/05 have been considered but are moot in view at the new grounds of rejection.

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50. **THIS ACTION IS MADE FINAL.** Applicant is reined of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

51. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Traversable Network Address Translation With Hierarchical Internet Addressing Architecture".

- | | | |
|------|-----------------|-----------------|
| i. | US 2001/0003823 | Mighdoll et al. |
| ii. | US 6,002,720 | Yurt et al. |
| iii. | US 2002/0069113 | Stern |
| iv. | US 6,412,073 | Rangan. |


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (571)272-3946. The examiner can normally be reached on M-F 7:15 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAROENCHONWANIT, BUNJOB can be reached on (571)272-3913. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CZ
January 22, 2006



BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER